

**REMARKS**

Claims 1 to 5 are pending in the application.

Claims 1-5 are rejected under 35 U.S.C. § 103, as allegedly being unpatentable over U.S. Patent No. 5,925,794 to Hsu, *et al.* ("Hsu '794").

Applicants respectfully traverse.

Claim 1 recites that a basic compound is used in an amount of about 0.3 mol or less per mol of an acidic compound.

Hsu '794 teaches a process for the preparation of 3-(methylthio)propanal. The Examiner concedes that Hsu '794 is deficient in that it fails to teach using a basic compound in an amount of 0.3 mol or less per mol of the acidic compound. Citing *In re Aller*, 220 F.2d 454 (CCPA 1955), the Examiner asserts that modifying a process conditions such as temperature and concentration is not a patentable modification absent a showing of criticality. Referring to page 2 of the Office Action, the Examiner also asserts that Hsu '794 discloses is continuous process. The alleged reason is that Hsu '794 discloses dividing the reaction product to a product fraction, circulating the fraction, and recycling the fraction to the gas/liquid contact zone.

Hsu '794 fails to teach or suggest using a basic compound in an amount of about 0.3 mol or less per mol of an acidic compound. Hsu '794 teaches using pyridinium acetate as a catalyst in the process thereof. *See, e.g.*, Examples 1 and 31. Pyridinium acetate is produced by reacting a pyridine (i.e., a base) with an equivalent amount of acetic acid (i.e., an acid). Equivalent amounts of pyridine and acetic acid result in using pyridine in an amount of 1 mol per mol of acetic acid. The amount of 1 mol per 1 mol of acetic acid is outside the range of 0.3 mol or less

per mol of an acid. There is no motivation to modify the amounts of pyridine and acetic acid disclosed in Hsu '794.

Examples 1 and 2 and Comparative Examples 1 and 2 of the specification also provides evidence of unpredictably and unexpectedly superior results. Example 1 of the specification discloses using a mixture of an acetic acid and a pyridine having a molar ratio of acetic acid/pyridine of 1/0.13. Example 1 discloses that the resulting percentage of 3-hydroxy-2-methylthiomethyl-4-pentenal is 0.24 % and the resulting percentage of 2-methylthiomethyl-5-methylthio-2-pentenal is 0.06 %. Example 2 of the specification discloses using a mixture of an acetic acid and a pyridine having a molar ratio of acetic acid/pyridine of 1/0.15. Example 2 discloses that the resulting percentage of 3-hydroxy-2-methylthiomethyl-4-pentenal is 0.23 % and the resulting percentage of 2-methylthiomethyl-5-methylthio-2-pentenal is 0.06 %.

In contrast, Comparative Examples 1 and 2 of the specification discloses using a mixture of an acetic acid and a pyridine having a molar ratio of acetic acid/pyridine of 1/0.51. Comparative Example 1 discloses that the resulting percentage of 3-hydroxy-2-methylthiomethyl-4-pentenal is 0.73 % and the resulting percentage of 2-methylthiomethyl-5-methylthio-2-pentenal is 0.10 %. Comparative Example 2 discloses that the resulting percentage of 3-hydroxy-2-methylthiomethyl-4-pentenal is 0.41 % and the resulting percentage of 2-methylthiomethyl-5-methylthio-2-pentenal is 0.12 %. In this regard, Comparative Examples 1 and 2 show that the processes thereof result in higher percentages of 3-hydroxy-2-methylthiomethyl-4-pentenal and 2-methylthiomethyl-5-methylthio-2-pentenal. A person of ordinary skill in the art would not have predicted or expected that the claimed amount of the

basic compound would provide for superior amounts of 3-hydroxy-2-methylthiomethyl-4-pentenal and 2-methylthiomethyl-5-methylthio-2-pentenal.

Moreover, Applicants respectfully submit that Examples 1 and 2 and Comparative Examples 1 and 2 of the specification also demonstrate the criticality of the amount of the basic compound. Comparative Examples 1 and 2 show that the processes thereof result in higher percentages of 3-hydroxy-2-methylthiomethyl-4-pentenal and 2-methylthiomethyl-5-methylthio-2-pentenal.

Further, U.S. Patent No. 2,776,996 to Hunt *et al.* ("Hunt '996"), which was cited in the Office Action dated March 28, 2006, is evidence that the claimed amount proceeds contrary to the accepted wisdom. Proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. *See* MPEP § 2145(X)(D)(3). In this present case, Hunt '996 teaches that the amount of the acid is less than the amount of the base thereof throughout the reaction period. *See* col. 2, lines 25-38. In this regard, a person of ordinary skill in the art would not have been motivated to use a base in an amount of 0.3 mol per mol of an acid.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant herewith petitions the Director of the USPTO to extend the time for reply to the above-identified Office Action for an appropriate length of time, if necessary. Unless a check is attached, any fee due under 37 C.F.R. § 1.17(a) is being paid via the USPTO Electronic Filing

RESPONSE UNDER 37 C.F.R. § 1.114(c)  
U.S. Application No.: 10/665,006

Attorney Docket No.: Q77349

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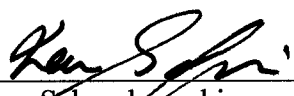
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**23373**

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